

**AMP**AMP INCORPORATED  
Harrisburg, Pa. 17105APPLICATION AND MAINTENANCE  
FOR AMP\* HAND CRIMPING TOOL 90281-2

Instruction Sheet

**IS 7836**

RELEASED

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Section I of this instruction sheet provides application procedures for AMP hand crimping tools.

Section II provides maintenance and inspection procedures for AMP hand crimping tools.

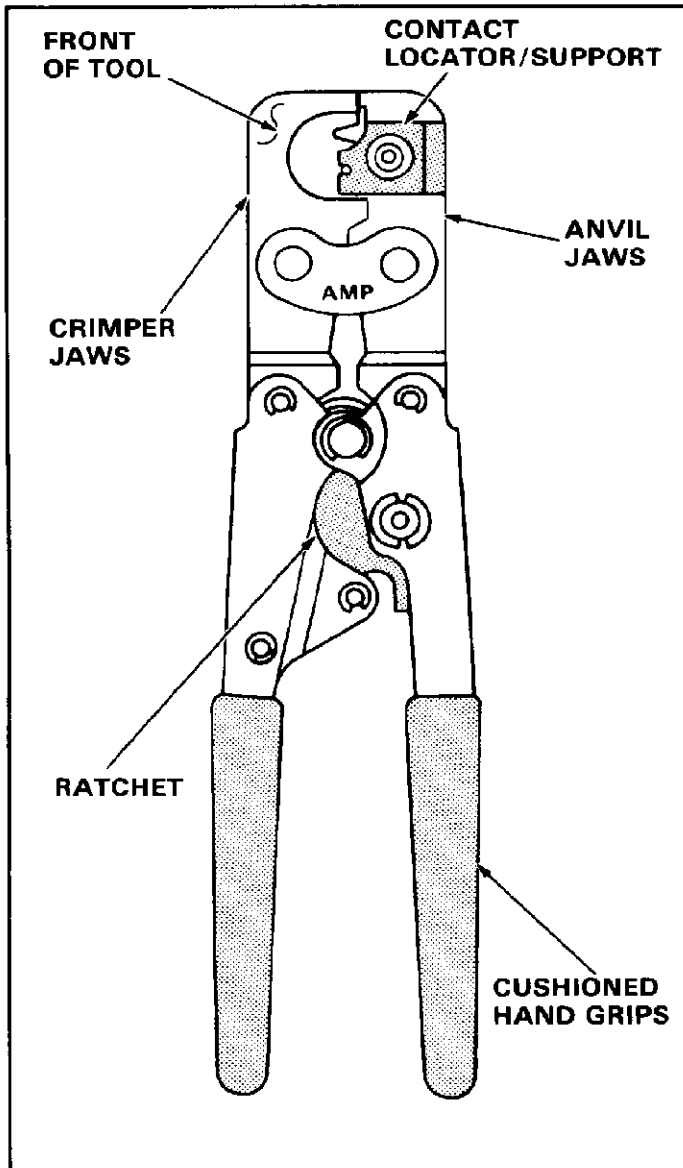


Fig. I-1

## SECTION I APPLICATION

## I-1. INTRODUCTION

AMP Hand Crimping Tool 90281-2 is designed for crimping the AMP Multimate Type II pin and socket contacts listed in Figure I-2. Read these instructions thoroughly before crimping any contacts.

NOTE

All dimensions presented on this instruction sheet are in inches, unless otherwise stated.

## I-2. DESCRIPTION (Figures I-1 and I-3)

The tool features crimper and anvil jaws, a contact locator/support, a color-coded wire size marking, and spring-actuated handles with cushioned hand grips.

The crimper jaws have two crimping chambers that close the contact wire barrel to the proper crimp height. Note that only the 14 AWG crimping chamber is needed to terminate the specified contacts.

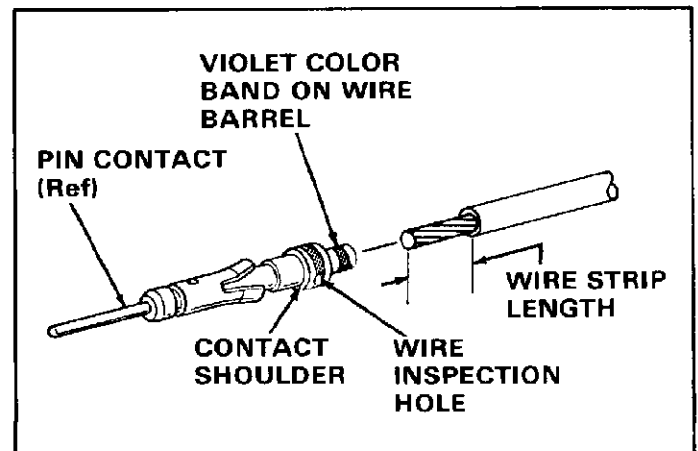
The anvil jaws support the contact during crimping. The tool is designed to terminate contacts that have a wire barrel and an insulation barrel; however, the specified contacts do NOT have an insulation barrel.

The contact locator/support holds the contact in position for wire insertion and contact crimping, and it prevents bending of the contact during crimping.

The ratchet assures full crimping of the contact. The handles must be fully closed to a preset handle pressure before the ratchet will release: do NOT attempt to re-adjust the ratchet.

## I-3. CRIMPING PROCEDURE (Figures I-2 and I-3)

Select size 14 AWG wire and strip it to the length indicated in Figure I-2. Do NOT cut or nick the wire strands. Select an applicable pin or socket contact that has a violet color band on the wire barrel.



WIRE SIZE (AWG)	WIRE STRIP LENGTH	MULTIMATE CONTACT NO.		CRIMP SECT (Wire Size Marking)
		PIN	SOCKET	
14	1/4 (.250)	201570	201568	14
14	1/4 (.250)	201645	201568	14

Fig. I-2

Refer to Figure I-3 and proceed as follows:

1. Hold tool so BACK (wire side) faces you. Make sure ratchet is released — squeeze tool handles together and allow them to open fully.
2. Looking straight into BACK of crimp section, insert contact (wire barrel first) into FRONT of crimp section. Position contact on anvil jaws, with contact shoulder against locator. Allow contact to rest in contact locator/support.
3. Squeeze tool handles together until ratchet engages enough to hold contact in position. Do NOT deform wire barrel.
4. Insert a properly stripped wire into contact wire barrel until it bottoms.
5. Holding wire in place, squeeze tool handles

together until ratchet releases. Allow tool handles to open FULLY and remove crimped contact.

6. Check to be sure contact is properly crimped. The wire should be visible inside inspection hole.

#### I-4. DAILY MAINTENANCE

Remove all foreign particles with a clean, soft brush, or a lint-free cloth. Make sure all pivot points and bearing surfaces are protected with a THIN coat of any good SAE No. 20 motor oil. Do NOT oil excessively. When the tool is not in use, keep the handles closed to prevent objects from becoming lodged between the crimping jaws, and store the tool in a clean, dry area.

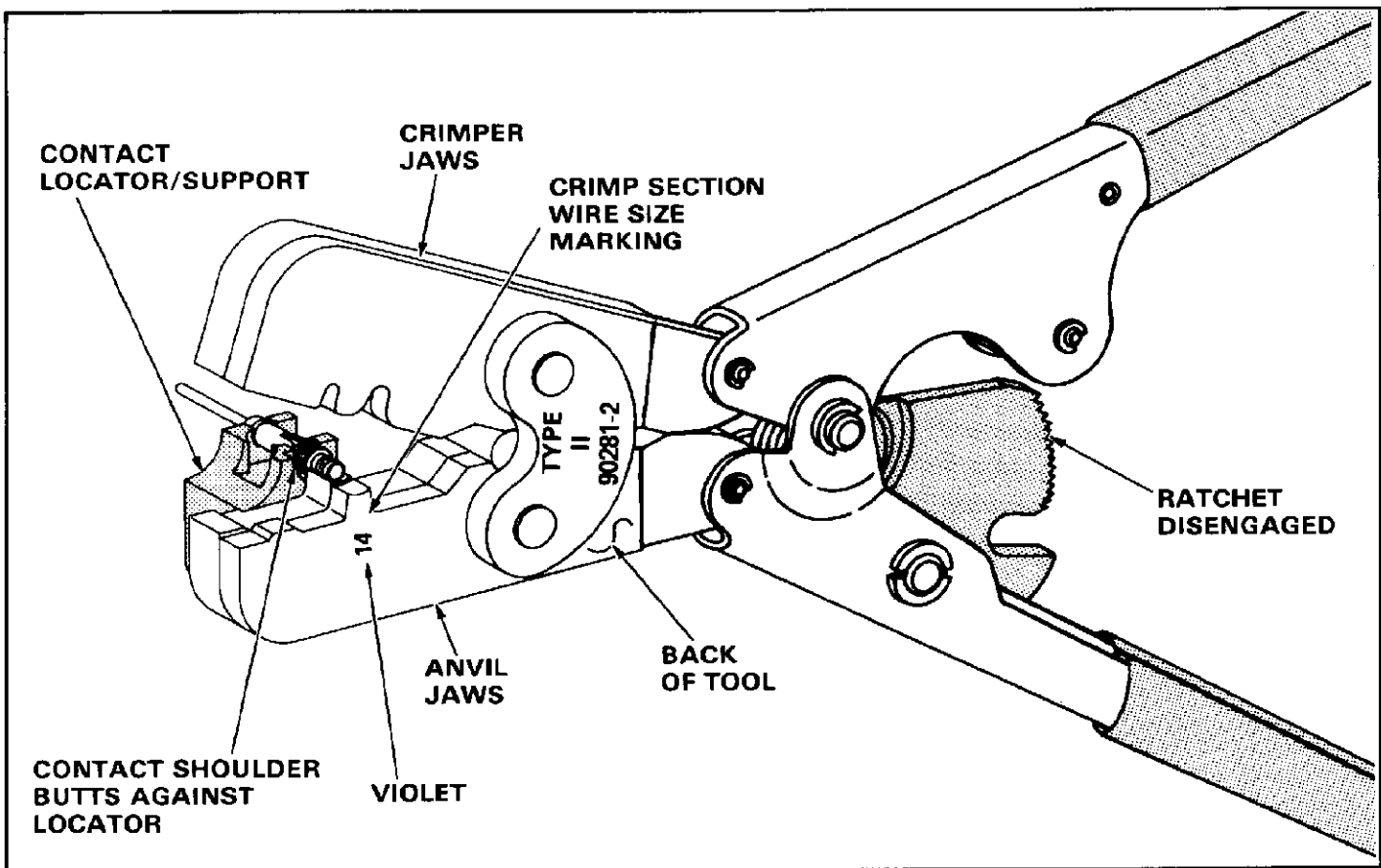
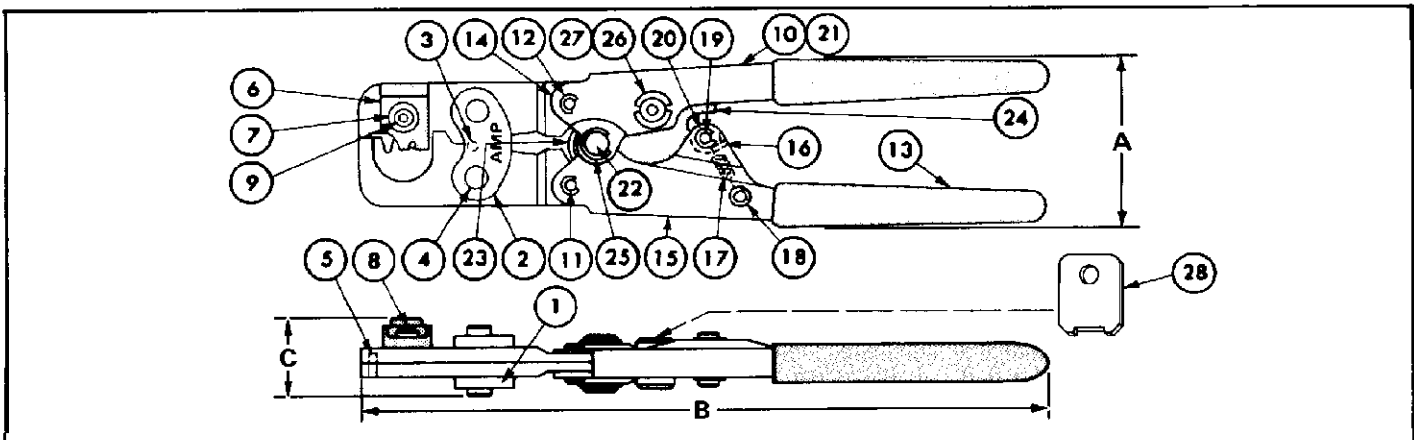
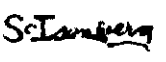


Fig. I-3

Section I of this instruction sheet provides application procedures for AMP hand crimping tools. Section II provides maintenance and inspection procedures for AMP hand crimping tools.



TOOL SPECIFICATIONS		REPLACEMENT PARTS							
DIMENSION	WEIGHT	ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
A	2.25	1	127310-1	LINK	1	15	127256-1	HANDLE, Inside	1
B	9.00	2	127304-1	LINK	1	16	127251-1	PAWL	1
C	1.00	3	127306-1	PIN	1	17	127292-1	SPRING, Extension	1
Engineering Approval		4	127307-1	RIVET	2	18	127253-1	PIN, Spring	1
		5	127309-1	RIVET	2	19	127255-1	PIN, Pivot	1
		6	127277-1	LOCATOR	1	20	127293-1	RING, Retaining	4
Date		7	127272-1	WASHER, Spring	1	21	127257-1	HANDLE, Outside	1
2/25/85		8	127278-1	BUSHING	1	22	127294-1	PIN, Pivot	1
		9	127305-1	SCREW	1	23	127295-1	SPRING, Torsion	1
		10	127250-1	HANDLE, Assembly	1	24	127258-1	RATCHET	1
		11	127252-1	PIN	2	25	127296-1	RING, Retaining	2
		12	127290-1	RING, Retaining	4	26	127259-1	STUD, Eccentric	1
		13	127254-1	GRIP	2	27	127297-1	NUT	1
		14	127291-1	WASHER	4	28	127298-1	SPANNER WRENCH	1*

\* SPANNER WRENCH NOT SUPPLIED WITH TOOL.

Fig. II-1

**SECTION II MAINTENANCE/INSPECTION**

**II-1. TOOL CERTIFICATION**

These instructions have been approved by AMP Design, Production, and Quality Control Engineers to provide documented maintenance and inspection procedures in accordance with AMP Corporate Policy No. 3-3. Through AMP test laboratories and the inspection of production assembly, the procedures described herein have been established to ensure quality and reliability of AMP hand crimping tools.

Customer replaceable parts are listed in Figure II-1. A complete inventory should be stocked and controlled to prevent lost time when replacement of parts is necessary.

**NOTE** Correspondence regarding this tool must include all identification marks, such as:  
 (Sample Part Number 99999-1-A)  
 Base number \_\_\_\_\_  
 Dash number \_\_\_\_\_  
 Modification or revision letter \_\_\_\_\_

**II-2. INSPECTION PROCEDURES**

**A. Daily Maintenance**

It is recommended that each operator of the tool be

made aware of — and responsible for — the following four steps of daily maintenance:

1. Remove dust, moisture, and other contaminants with a clean brush, or a soft, lint-free cloth. Do NOT use objects that could damage the tool.
2. Make sure the proper retaining pins are in place and secured with the proper retaining rings.
3. Make certain all pins, pivot points, and bearing surfaces are protected with a THIN coat of any good SAE No. 20 motor oil. Do NOT oil excessively.
4. When the tool is not in use, keep the handles closed to prevent objects from becoming lodged in the crimping jaws and store the tool in a clean, dry area.

**B. Periodic Inspection**

Regular inspections should be performed by quality control personnel. A record of scheduled inspections should remain with the tool and/or be supplied to supervisory personnel responsible for the tool. Though recommendations call for at least one inspection a month, the inspection frequency should be based on the amount of use, ambient working

conditions, operator training and skill, and established company standards. These inspections should be performed in the following sequence:

**B-1. Visual Inspection**

1. Remove all lubrication and accumulated film by immersing the tool (handles partially closed) in a suitable commercial degreaser that will not affect paint or plastic material.
2. Make certain all retaining pins are in place and secured with retaining rings. If replacements are necessary, refer to parts listed in Figure II-1.
3. Close the tool handles until the ratchet releases, then allow handles to open freely. If they do not open quickly and fully, the spring is defective and must be replaced (see Paragraph II-3, REPAIR).
4. Inspect the head assembly, with special emphasis on checking for worn, cracked, or broken jaws. If damage to any part of the head assembly is evident, the tool must be repaired (see Paragraph II-3, REPAIR).

**B-2. Crimp Height Inspection**

This inspection requires the use of a micrometer with a modified anvil as shown in Figure II-2. We recommend the modified micrometer (Crimp Height Comparator RS-1019-5L) which can be purchased from:

York Machinery & Supply Co. 20 North Penn St. York, PA 17401	or	VALCO 1410 Stonewood Dr. Bethlehem, PA 18017
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Proceed as follows:

1. Refer to the chart in Figure II-2, and select a contact and a wire (maximum size) for the crimp section listed in the chart.
2. Refer to Paragraph I-3, CRIMPING PROCEDURE, and crimp the contact(s) accordingly.
3. Using a crimp height comparator, measure wire barrel crimp height as shown in Figure II-2. If the crimp height conforms to that shown in the chart, the tool is considered dimensionally correct. If not, the tool must be repaired (see Paragraph II-3, REPAIR).

For additional information concerning the use of the crimp height comparator, refer to AMP Instruction Sheet IS 7424.

**B-3. Ratchet Inspection**

Obtain a .001-in. shim that is suitable for checking the clearance between the bottoming surfaces of the crimping jaws.

Proceed as follows:

1. Select a contact and wire (maximum size) for the tool (see Figure II-2).

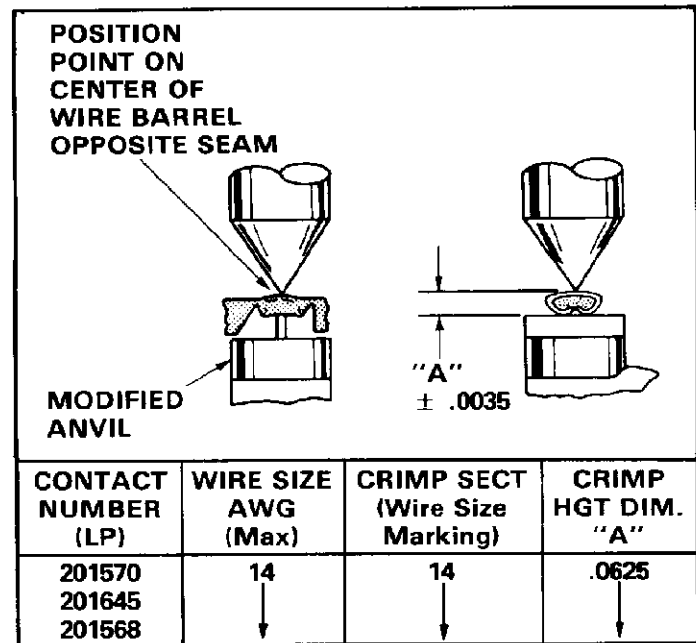


Fig. II-2

2. Position the contact and wire between the crimping jaws, according to Paragraph I-3, CRIMPING PROCEDURE (Steps 1 through 5). Holding the wire in place, squeeze the tool handles together until the ratchet releases. Hold the tool handles in this position, maintaining just enough pressure to keep the jaws closed.
3. Check the clearance between the bottoming surfaces of the crimping jaws. If the clearance is .001 in. or less, the ratchet is satisfactory. If clearance exceeds .001 in., the ratchet is out of adjustment and must be adjusted (see Paragraph II-3, REPAIR).

If the tool conforms to these inspection procedures, lubricate it with a THIN coat of any good SAE No. 20 motor oil and return it to service.

**II-3. REPAIR**

All parts of the tool can be replaced. If parts that affect ratchet setting are replaced, the ratchet must be adjusted using the spanner wrench (see Figure II-1).

Proceed as follows:

1. Loosen the ratchet nut on the back of tool (side with wire size markings).
2. Check bottoming of tool jaws according to Paragraph B-3, Ratchet Inspection. Turn screw on front of tool CLOCKWISE to tighten ratchet or COUNTERCLOCKWISE to loosen ratchet.
3. When tool jaws bottom properly, retighten nut.

NOTE

*It may be necessary to hold the ratchet screw while securing the ratchet nut.*